

DACA42-03-C-0024

LOGANEnergy

US State Department International Chancery Conclave
PEM Demonstration Project
Final Report

Proton Exchange Membrane (PEM) Fuel Cell Demonstration
Of Domestically Produced PEM Fuel Cells in Military Facilities

US Army Corps of Engineers
Engineer Research and Development Center
Construction Engineering Research Laboratory
Broad Agency Announcement CERL-BAA-FY02

US Department of State – Chancery Conclave
District of Columbia

March 12, 2007

Executive Summary

Under terms of its FY'02 DOD PEM Demonstration Contract with ERDC/CERL, LOGANEnergy agreed to install and operate one Plug Power GenCore 5kWe auxiliary fuel cell power plant (see Appendix section 2) at the State Department Administrative Center of the International Chancery Conclave (ICC) in Washington, DC. The GenCore fuel cell operates on hydrogen fuel and provides +48Vdc back-up power.

This project was initially destined for Ft Belvoir, VA. However, the project POC and former head of the Fort Belvoir Fuel Cell Technology Team of the US Army Communications-Electronics, Research Development and Engineering Command (CERDEC), moved on to another position in June 2004. So, after putting forth a good faith effort for several months to gain new support for the project and still having no good prospects, it was decided to seek a new opportunity at another location. In October 2004 the Department of State (DOS) ICC emerged as a suitable alternative. The ICC is a major real estate development of the DOS to relocate all foreign embassy compounds to one site in order to provide greater security for foreign delegations. The hydrogen fueled unit was electrically configured to provide electrical power to a simulated load panel in the administration building. The load panel was designed to simulate typical critical or emergency circuits. Utilizing the simulation panel, the State Department could safely evaluate the use of PEM fuel cell technology as a backup power source. The testing protocol would require the fuel cell to respond to 730 forced electrical outages during the course of a calendar year. Each twenty minute outage would require the fuel cell to provide uninterrupted power for a nominal 1800W load.

The fuel cell was delivered to the site in April of 2005. All site construction and final connections to the simulation panel were completed in July 2005. Since the fuel cell was connected to the simulation panel, no modifications were made to the building electrical systems. As such, no external contractors were required to install the fuel cell. However, it was necessary to contract a local compressed gas supplier to refuel the unit. For this project, LOGANEnergy elected to use Airgas (Hyattsville, MD) due to their relationship with the fuel cell manufacturer. The commissioning of the fuel cell was delayed because of logistical concerns posed by the hydrogen supplier. In July of 2005, the fuel storage module (CESM) was relocated to facilitate hydrogen deliveries. The official commissioning of the project was July 27, 2005.

In December of 2006, the demonstration ended with the fuel cell successfully completing 596 successful starts. The major issues affecting the performance of the fuel cell were attributable to hydrogen sensors, electronics, and software.

The DOS POC for this project is:

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Proposal – Proton Exchange Membrane (PEM) Fuel Cell Demonstration of Domestically Produced Residential PEM Fuel Cells in Military Facilities

1.0 Descriptive Title

LOGANEnergy Corporation Small Scale PEM Demonstration Project at US DOS International Chancery Conclave Administrative Building located at Van Ness Street, Washington DC. The installed back-up power fuel cell system provides up to 5kW of back-up +48V DC power while operating on hydrogen fuel.

2.0 Name, Address and Related Company Information

LOGANEnergy Corporation

1080 Holcomb Bridge Road
BLDG 100- 175
Roswell, GA 30076
(770) 650- 6388

DUNS 01-562-6211
CAGE Code 09QC3
TIN 58-2292769

LOGANEnergy Corporation is a private Fuel Cell Energy Services company founded in 1994. LOGAN specializes in planning, developing, and maintaining fuel cell projects. In addition, the company works closely with manufacturers to implement their product commercialization strategies. Over the past decade, LOGAN has analyzed hundreds of fuel cell applications. The company has acquired technical skills and expertise by designing, installing and operating over 30 commercial and small-scale fuel cell projects totaling over 8 megawatts of power. These services have been provided to the Department of Defense, fuel cell manufacturers, utilities, and other commercial customers. Presently, LOGAN supports 30 PAFC and PEM fuel cell projects at 21 locations in 12 states, and has recently installed 22 new projects in the US and the UK.

3.0 Production Capability of the Manufacturer

Plug Power manufactures a line of PEM fuel cell products at its production facility in Latham, NY. The facility produces three lines of PEM products including the 5kW GenSys5C natural gas unit, the GenSys5P LP Gas unit, and the GenCore 5kW standby power system. The current facility has the capability of manufacturing 10,000 units annually. Plug Power will support this project by providing remote monitoring, telephonic field support, overnight parts supply, and customer support. These services are intended to enhance the reliability and performance of the unit and achieve the highest possible customer satisfaction. Vincent Cassala is the Plug Power point of contact for this project. His phone number is 518.782.7700 ex1228, and his email address is vincent_cassala@plugpower.com.

4.0 Principal Investigator(s)

Name	Samuel Logan, Jr.	Keith Spitznagel
Title	President	Vice President Market Engagement
Company	Logan Energy Corp.	Logan Energy Corp.
Phone	770.650.6388 x 101	860.210.8050
Fax	770.650.7317	770.650.7317
Email	samlogan@loganenergy.com	kspitznagel@loganenergy.com

5.0 Authorized Negotiator(s)

Name	Samuel Logan, Jr.	Keith Spitznagel
Title	President	Vice President Market Engagement
Company	Logan Energy Corp.	Logan Energy Corp.
Phone	770.650.6388 x 101	860.210.8050
Fax	770.650.7317	770.650.7317
Email	samlogan@loganenergy.com	kspitznagel@loganenergy.com

6.0 Past Relevant Performance Information

a) Contract: PC25 Fuel Cell Service and Maintenance Contract #X1237022

Merck & Company
Ms. Stephanie Chapman
Merck & Company
Bldg 53 Northside
Linden Ave. Gate
Linden, NJ 07036
(732) 594-1686

Four-year PC25 PM Services Maintenance Agreement - In November 2002 Merck & Company issued a four-year contract to LOGAN to provide fuel cell service, maintenance and operational support for one PC25C fuel cell installed at their Rahway, NJ plant. During the contract period the power plant has operated at 94% availability.

b) Contract: Plug Power Service and Maintenance Agreement to support one 5kWe GenSys 5C and one 5kWe GenSys 5P PEM power plant at NAS Patuxant River, MD.

Plug Power
Mr. Vincent Cassala
968 Albany Shaker Rd.
Latham, NY 12110
(518) 782-7700 ex 1228

- c) Contract: A Partners LLC Commercial Fuel Cell Project Design, Installation and 5-year service and maintenance agreement on 600kW UTC PC25 power block.
Contract # A Partners LLC, 12/31/01

Mr. Ron Allison
A Partner LLC
1171 Fulton Mall
Fresno, CA 93721
(559) 233-3262

7.0 Host Facility Information

The US Department of State International Chancery Center (ICC) administrative building is located in the Northwest Section of Washington DC. The ICC is an alternative to "Embassy Row" along Massachusetts Avenue. It began more than 30 years ago, when Congress set aside former National Bureau of Standards land for international use. Located on either side of Van Ness Street, the 47 acre site is home to 18 foreign embassies including Israel, Jordan, Kuwait, Singapore, Austria, Bahrain, Bangladesh, Brunei, Egypt, Ethiopia, Ghana, Malaysia, Nigeria, Pakistan, Singapore, Slovakia, the United Arab Emirates, and Morocco. China is about to break ground on a complex designed by I.M. Pei. The ICC administrative building is a three story building built in 1990, and houses the DOS Office of Protocol, the US Secret Service, and the DOS Office of Foreign Missions.

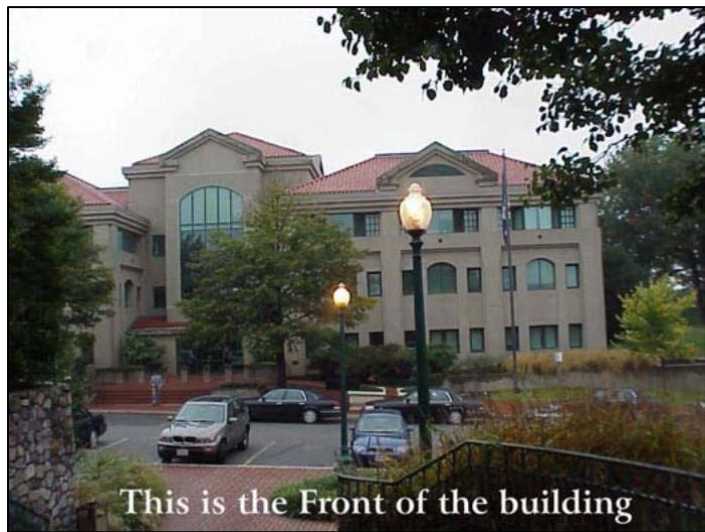


Figure 1 – International Chancery Center

8.0 Fuel Cell Installation

The fuel cell was installed adjacent to a ventilation shaft on the northwest corner of the building (Fig. 2). Being near the ventilation shaft facilitated running the conduit to the electrical panels located in the underground parking deck. This location also provided good access for the driver delivering hydrogen cylinders required to refuel the unit. The control panel and test load were installed in a highly visible location near the existing generator room. The fuel cell required two separate conduit runs for power conductors (1 ½ in) and communications (3/4 in). All conduits were of the rigid metallic type (Fig. 3).



Figure 2 – Fuel Cell Location



Figure 3 – Ventilation Shaft

The fuel cell and chemical energy storage module (CESM) were initially installed adjacent to each other using pre-cast concrete slabs. In this arrangement, the CESM is approximately six inches from the fuel cell. The fuel cell and CESM were anchored to the slabs using standard concrete anchors. This is the arrangement recommended by the manufacturer. The CESM and fuel cell were connected using the factory supplied stainless steel hose assembly and wiring harness. There was also a field installed grounding conductor that had to be connected between the units.



Figure 4 – CESM & Pavers

Once the fuel cell was installed, an issue was raised by the local hydrogen representative at Airgas. He was unhappy with the location and cited safety concerns with having to transport the hydrogen cylinders across an unpaved area, not having a JSA (job safety assessment), and having to conduct specific employee training regarding the cylinder replacement procedure. He also indicated that a level, hard surface was required adjacent to the unit for staging cylinders during refueling. After several discussions involving Airgas and Plug Power, it was suggested that temporarily installing concrete pavers during the project might be adequate to satisfy the safety concerns of the hydrogen vendor.

The pavers were installed near the end of June 2005 (Fig. 4).

Once the pavers were installed the local Airgas representatives returned to the site to perform a JSA (job safety assessment). The JSA determined that the pavers were an improvement, but still inadequate for regular use. The gas supplier recommended a paved walkway or other similar access.

Due to the temporary nature of the demonstration and site cosmetics, it was not feasible to construct a paved walkway. Therefore, it was necessary to relocate the CESM so that it was adjacent to the paved area behind the Chancery Center. This area is normally used for temporary storage and delivery vehicles. In the new location, the CESM was located on a poured 4ft x 6ft concrete slab. The slab included bollards that serve to protect the CESM from incidental contact (Fig. 5). In the new location, the fuel cell was approximately 35 feet from the Chemical Energy Storage Module. This required trenching from the fuel cell to the hydrogen storage cabinet in order to install the extended fuel supply line and electrical connections. Once the CESM was installed in the new location, Airgas agreed to provide the refueling service for the demonstration.



Figure 5 – Relocated CESM

In order to simulate a DC bus application, a Sorenson 48VDC power supply was installed in conjunction with a 1.8kW resistance heater. The installation also included a timer that cycled power to the rectifier in order to simulate a grid outage. The fuel cell was designed to detect and respond to drops in bus voltage should there be a problem with the grid or customer equipment. This test panel was assembled off site and installed on the wall just outside the existing electrical room. Figure 6 outlines the layout of the fuel cell, CESM, and test panel.

Upon completion of the equipment installation, it was necessary to commission the fuel cell. This involved removing factory installed coverings from all fuel cell openings, installing hydrogen cylinders in the CESM, and performing the initial startup. During the startup, additional checks were performed including fuel pressure check, leak check, and overall system operation. During the startup, several problems were encountered with the fuel cell. These included a faulty excess flow valve in the CESM, a software issue with the low bus monitoring, an improperly installed pressure gauge, and a short in the electrical connector between the fuel cell and CESM. All of these issues were reported to the manufacture and corrected through component replacement or software upgrades.

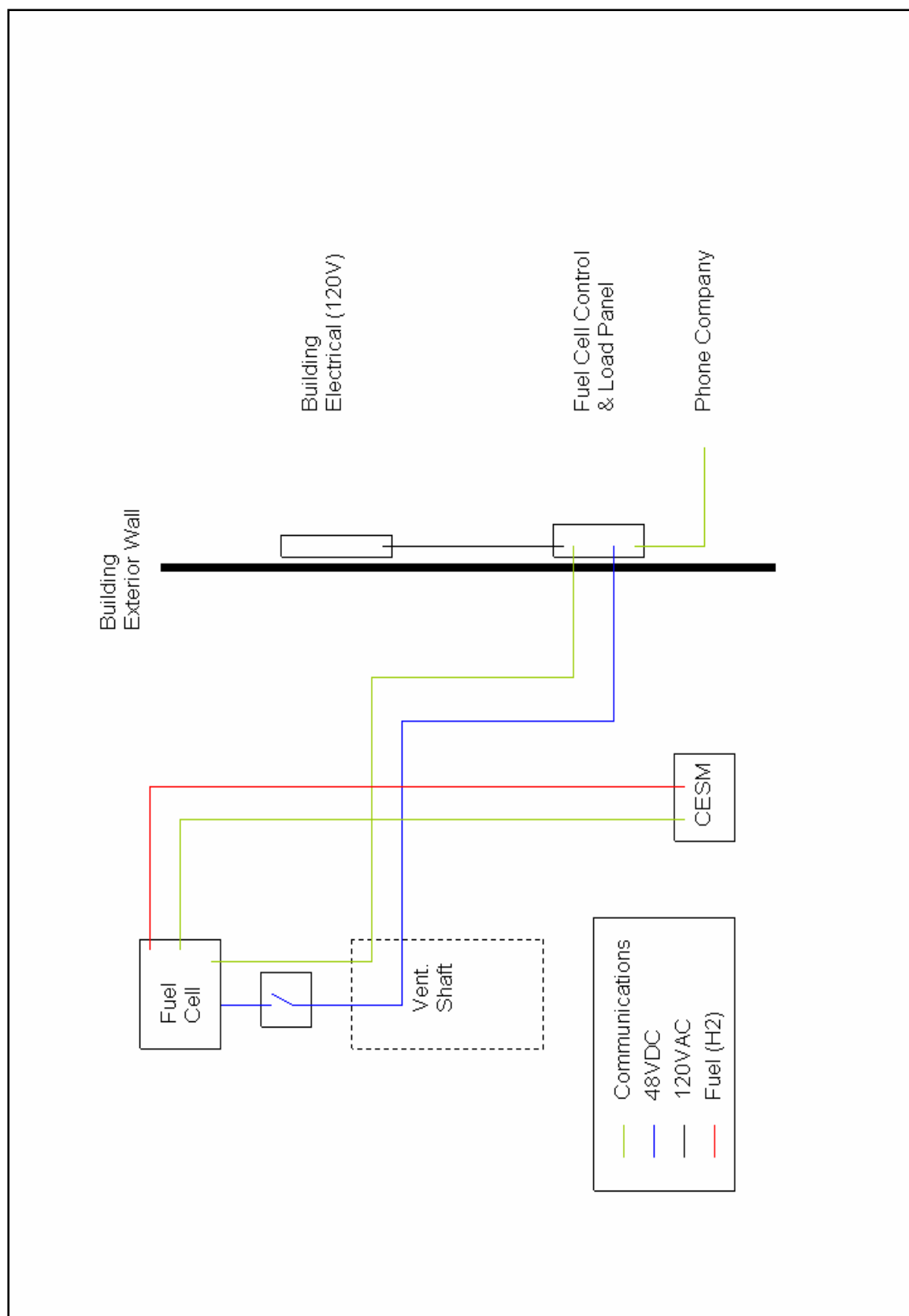


Figure 6 – ICC Conduit and Mechanical Layout

9.0 Electrical System

The Plug Power Gencore fuel cell is designed for use in the telecommunications industry. It is designed for direct current (DC) applications and is normally installed in parallel with a DC rectifier and accompanying lead-acid battery bank. By design, the Gencore is always connected to the customer's bus and continually monitors the voltage of the primary supply. If the customer's bus voltage drops below a user defined setpoint, the Gencore will start automatically and provide reliable back up power for the customer's application. When running, the Gencore matches its current output to the required load and runs at a voltage slightly below (0.5V) the customer setpoint. Once the customer DC bus returns, the fuel cell senses the corresponding voltage rise and returns to standby mode. The available runtime depends on the average output power. The Gencore is capable of providing 12 hours of runtime at 5.0 kW using a bank of six industry standard hydrogen cylinders.

In order to test the operation of the unit, LOGANEnergy installed a test panel to simulate the DC bus. This panel consisted of a 48 VDC Sorenson power supply, an Intermatic programmable cycle timer, two relays, and a 1.8 kW DC resistance heater. During the test cycle, the timer simulates a DC bus failure by disabling the output of the power supply (relay 1). At the same time, the timer closes the load relay (relay 2) and energizes the resistance heater. Once the voltage drops below the predefined set point, the fuel cell starts and runs the load for a specified time. In this demonstration, the timer was programmed to initiate two test cycles a day for a period of 20 minutes each. Figure 7 shows a detail of the test panel. Figure 8 shows the panel as installed at the Chancery Center.

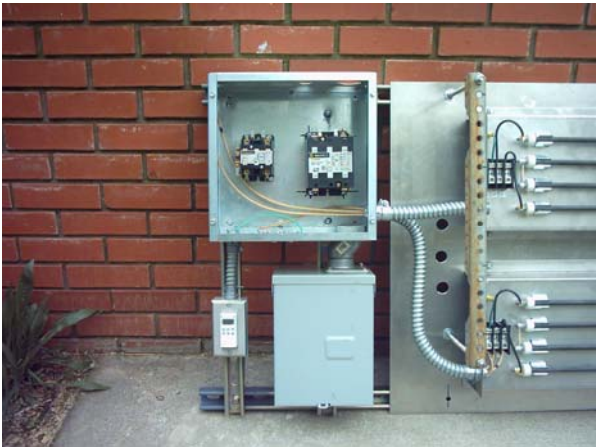


Figure 7 – Test Panel Detail



Figure 8 – Test Panel as Installed

10.0 Thermal Recovery System

The GenCore fuel cell does not provide thermal recovery capability.

11.0 Data Acquisition System

The GenCore controller recorded and stored operating data including the number of automatic starts, fuel cell operating hours, and kWh provided to the DC load. The Gencore also received input from pressure transducers inside the CESM Storage Module. These pressure transducers

allowed daily fuel consumption to be monitored remotely using the fuel cell modem. Required data was downloaded regularly and compiled into readable format in order to maintain an operating record of the test site. In addition, a Dent Instruments data-logger was installed to verify test panel operation and provide limited alarming capability.

12.0 Fuel Supply System

Fuel was supplied to the Gencore via standard industrial hydrogen cylinders. At the International Chancery Center the local hydrogen vendor was Airgas. The optional CESM hydrogen storage module that was offered by Plug Power accepted six, industry standard, 200 SCF hydrogen cylinders. The cylinders were divided into two banks of three, and either bank could be replenished without interrupting the operation of the system. The CESM came equipped with an automatic changeover valve that automatically switched cylinder banks once one was depleted. The CESM included analog pressure transducers that allowed the GenCore to track fuel level. Fuel usage was calculated manually using the physical relationship between pressure, temperature, and volume.

The CESM was designed to be located within six inches of the GenCore fuel cell. The manufacturer supplies prefabricated hoses and wiring to connect the CESM in this configuration. For this project it was necessary to locate the CESM separate from the GenCore in order to facilitate refueling by Airgas. As installed the fuel supply was located approximately 40 feet from the fuel cell. This required custom piping and wiring between the units.

13.0 Program Costs

US State Department International Chancery Conclave - Gencore Demonstration

Project Utility Rates						
1)	Water (per 1,000 gallons)		N/A			
2)	Utility (per KWH)		N/A			
3)	Bottled Hydrogen (per SCF)		\$ 0.145			
First Cost				Budgeted	Actual	Variance
Plug Power 5 kW Gencore				\$ 15,000	\$ 14,915	\$ (85)
Product Training - Gencore				\$ 2,500	\$ 2,500	\$ -
Shipping				\$ 1,800	\$ 1,312	\$ (488)
Installation electrical				\$ 1,500	\$ 3,106	\$ 1,606
Installation mechanical & thermal				\$ 1,500	\$ 2,854	\$ 1,354
Instrumentation, Data Package				\$ 1,170	\$ 1,559	\$ 389
Site Prep, labor materials				\$ 650	\$ 1,075	\$ 425
Technical Supervision/Start-up				\$ 6,500	\$ 6,500	\$ -
Maintenance labor				\$ 20,960	\$ 16,157	\$ (4,803)
Total				\$ 51,580	\$ 49,978	\$ (1,602)
Annual Operating Expenses				Budgeted	Actual	Variance
		Budgeted	Actual	\$/Min		
	Bottled Hydrogen, Scf/min @ 1.8kW	0.8480	1.0250	\$ 0.123	\$ 1,790	\$ 2,164
						\$ 374
Hydrogen Cost/kWh				\$ 4.10		

Economic Summary	Budgeted	Actual	Variance
Forecast Annual kWh	437	465	28.2
Annual Cost of Operating Power Plant kWh	\$ 4.10	\$ 4.65	\$ 0.56
Credit Annual Thermal Recovery kWh	N/A	N/A	N/A
Project Net Operating Cost kWh	\$ 4.10	\$ 4.65	\$ 0.56
Displaced Utility cost kWh	N/A	N/A	N/A
Energy Savings (Increase)	N/A	N/A	N/A
Annual Energy Savings (Increase)	N/A	N/A	N/A

14.0 Milestones/Improvements

During the initial acceptance test, there were two major issues with the Gencore. The initial problem involved the excess flow valve inside of the CESM storage module. This valve was designed to isolate the hydrogen should there be a significant hydrogen leak downstream of the valve. In the acceptance test, the valve was overly sensitive and nuisance trips would occur even when there was no fuel leak. This was corrected by recalibrating the valve in the field. Plug Power worked on modifications to the excess flow valve to correct the oversensitivity.

The second issue was that the fuel cell did not reinitialize properly after an automatic run cycle. This problem required a software revision from Plug Power. Once the new software was received, it was installed by the field technician. With the new software, the fuel cell was able to successfully complete the acceptance test.

A third issue pertained to the onboard analog modem. If the modem experienced an error or abrupt disconnect, it would remain off-hook until some one rebooted the system by

disconnecting the Gencore's internal batteries. This was a troublesome issue because once the modem failed there was no way to monitor system performance remotely. Several months into the demonstration, Plug Power was able to resolve this problem with a software upgrade that forced the modem to re-initialize after a specified period of inactivity.

An additional lesson involved addressing logistical issues with hydrogen storage and refueling. The location of the CESM had meet all NFPA regulations regarding hydrogen storage. In addition, hydrogen distributors had certain guidelines regarding access to the site that must be considered when placing the unit. It is good practice to involve the hydrogen vendor early in the process.

15.0 Decommissioning/Removal/Site Restoration

The fuel cell demonstration period has ended and the system has been properly shut down. There has been some interest on the part of the Department of State to transition the unit to a live application. This plan would call for the unit to remain in its current location and with modifications to the electrical wiring provide extended backup power for facility computers. The unit will remain on site until the Department of State makes a final determination on utilizing the unit for a critical backup application.

16.0 Additional Research/Analysis

None

17.0 Conclusions/Summary

Due to several extended outages and repetitive failures, this project continued past its scheduled completion date. The additional months allowed a thorough evaluation of the performance of the unit. The total installed cost of the project was \$33,821 (\$3,201 over budget). The total operating costs of \$16,157 came in under the project budget by \$3,843.

For the duration of the project, the Gencore achieved a reliability of 93.8% and an availability of 74.2%. The majority of the issues affecting the performance of the system were related to the H2 sensor, electronics, and software. There was a replacement of the cell stack on July 7, 2006, but it is believed that the stack was damaged due to a previous electronics failure that affected the cabinet heating circuit. During the demonstration LOGANEnergy identified several opportunities for product improvements and these suggestions have been implemented or forwarded to Plug Power for further consideration.

This demonstration also uncovered some issues relating to utilizing compressed hydrogen as a fuel. Along with numerous regulatory issues regarding hydrogen safety, handling compressed hydrogen cylinders can also present a logistical challenge. In particular, delivery routes should be well planned and should avoid stairs, steps, or non-paved surfaces. Considerations must be given to locating the hydrogen manifold in an area that facilitates access for delivery trucks. Manual transportation of compressed gas cylinders is difficult and can be affected by weather conditions including snow and ice. In general, this demonstration provided a good insight into distribution issues related to using compressed hydrogen as a fuel.

Appendix

- 1) Fuel Cell Performance Data
- 2) Fuel Cell Incident Reports
- 3) Key Cumulative Operating Data
- 4) Gencore Event Stack

1) Fuel Cell Performance Data

PEM Fuel Cell Performance Data

System Number: GC00000053 Commission Date: 27-Jul-05
 Site Name: The Chancery Conclave - Washington DC Start of 1 Year Test Program: 27-Jul-05
 Fuel Type: Hydrogen Fuel Cell Type: Plug Power PEM
 Lower Heating Value: Maintenance Contractor: LOGANEnergy Corp.
 Lower Heating Value: Local Residential Fuel Cost per therm: \$/therm
 Capacity kW: 5 Local Residential Electricity Cost per kWhr: \$/kWhr

Site Location(City,State): Washington, DC
 Local Base Fuel Cost per therm: \$/therm
 Local Base Electricity Cost per kWhr: \$/kWhr

Month	Total Time in Month	Total Run Time During Month	Total Run Time During Scheduled Test Periods (Note 1)			Scheduled Starts	Attempted Starts	Actual Starts	Availability (Note 2)	Reliability (Note 3)	Net Energy Produced	Plant Capacity	Average Output (Note 4)	Capacity Factor (Note 5)	Fuel Usage		Electrical Efficiency (Note 6)	Thermal Heat Recovery	Heat Recovery Rate (Note 7)	Thermal Efficiency (Note 8)	Overall Efficiency (Note 9)	Number of Scheduled Outages	Scheduled Outage Hours	Number of Unscheduled Outages	Unscheduled Outage Hours	Notes
	(Hours)	(Hours)	(Hours) Scheduled	(Hours) Actual	(Hours) Cumulative				(%)	(%)	(kWe-hr)	(kW)	(kWe)	(%)	(Btu) LHV	(SCF)	(%, LHV)	(Btu)	(Btu/hour)	(%, LHV)	(%, LHV)		(Hours)		(Hours)	
Jul-05	240	3.3	3.3	3.3	3.3	10	10	10	100%	100%	6.0	5	1.800	0.50%	59345	205	N/A	N/A	N/A	N/A	N/A	0	0.00	0	0.00	None
Aug-05	744	20.7	20.7	20.7	24.0	62	62	62	100%	100%	37.2	5	1.800	1.00%	367319	1271	N/A	N/A	N/A	N/A	N/A	0	0.00	0	0.00	None
Sep-05	720	14.3	20.0	14.3	38.3	60	58	43	72%	74%	25.8	5	1.800	0.72%	254754	882	N/A	N/A	N/A	N/A	N/A	0	0.00	2	168.00	Gas Sensor
Oct-05	744	15.3	20.7	15.3	53.7	62	48	46	74%	96%	27.6	5	1.800	0.74%	272527	943	N/A	N/A	N/A	N/A	N/A	0	0.00	2	147.00	Gas Sensor, Modem
Nov-05	720	20.0	20.0	20.0	73.7	60	60	60	100%	100%	36.0	5	1.800	1.00%	355470	1230	N/A	N/A	N/A	N/A	N/A	0	0.00	0	0.00	None
Dec-05	744	19.0	20.7	19.0	92.7	62	60	57	92%	95%	34.2	5	1.800	0.92%	337697	1169	N/A	N/A	N/A	N/A	N/A	0	0.00	1	62.00	K1, Gas Sensor
Jan-06	744	11.0	20.7	11.0	103.7	62	35	33	53%	94%	19.8	5	1.800	0.53%	195509	677	N/A	N/A	N/A	N/A	N/A	0	0.00	6	348.00	K1, Gas Sensor
Feb-06	672	14.0	18.7	14.0	122.0	56	43	42	75%	98%	25.2	5	1.800	0.75%	248829	861	N/A	N/A	N/A	N/A	N/A	0	0.00	2	174.00	Modem, Pwr Supply
Mar-06	744	14.7	20.7	14.7	136.7	62	45	44	71%	98%	26.4	5	1.800	0.71%	260678	902	N/A	N/A	N/A	N/A	N/A	0	0.00	2	216.00	Modem, Pwr Supply
Apr-06	720	14.0	20.0	14.0	150.7	60	43	42	70%	98%	25.2	5	1.800	0.70%	248829	861	N/A	N/A	N/A	N/A	N/A	0	0.00	4	216.00	H2 sensor, modem, voltage scanner card
May-06	744	18.3	20.7	18.3	169.0	62	56	55	89%	98%	33.0	5	1.800	0.89%	325848	1128	N/A	N/A	N/A	N/A	N/A	0	0.00	2	84.00	Modem, GCC
Jun-06	720	15.0	20.0	15.0	184.0	60	46	45	75%	98%	27.0	5	1.800	0.75%	266603	923	N/A	N/A	N/A	N/A	N/A	0	0.00	2	180.00	Modem, Stack
Jul-06	744	11.3	20.7	11.3	195.3	62	35	34	55%	97%	20.4	5	1.800	0.55%	201433	697	N/A	N/A	N/A	N/A	N/A	0	0.00	2	336.00	Stack, H2 Sensor
Aug-06	744	8.3	20.0	8.3	192.3	60	26	25	42%	96%	15.0	5	1.800	0.40%	148113	513	N/A	N/A	N/A	N/A	N/A	0	0.00	3	420.00	Modem, H2 sensor, H2 leak repair
Sep-06	720	6.0	20.0	6.0	198.3	60	30	18	30%	60%	10.8	5	1.800	0.30%	106641	369	N/A	N/A	N/A	N/A	N/A	0	0.00	1	576.00	Gas Sensor
Oct-06	744	15.0	20.7	15.0	213.3	62	47	45	73%	96%	27.0	5	1.800	0.73%	266603	923	N/A	N/A	N/A	N/A	N/A	0	0.00	1	216.00	H2 sensor, float levels
Nov-06	720	18.7	20.0	18.7	232.0	60	60	56	93%	93%	33.6	5	1.800	0.93%	331772	1148	N/A	N/A	N/A	N/A	N/A	0	0.00	1	48.00	Low Fuel
Dec-06	744	19.3	20.7	19.3	251.3	62	62	58	94%	94%	34.8	5	1.800	0.94%	343621	1189	N/A	N/A	N/A	N/A	N/A	0	0.00	1	48.00	GCC/Modem fault

Running Totals	Total Time in Month	Total Run Time During Month	Total Run Time During Scheduled Test Periods			Total Attempted Starts	Total Actual Starts	Total Availability	Total Reliability	Total Energy Produced	Plant Capacity	Total Average Output	Total Capacity Factor	Fuel Usage		Average Electrical Efficiency	Total Thermal Heat Recovery	Heat Recovery Rate	Thermal Efficiency	Overall Efficiency	Total Number of Scheduled Outages	Total Scheduled Outage Hours	Total Number of Unscheduled Outages	Total Unscheduled Outage Hours	
	(Hours)	(Hours)	(Hours) Scheduled	(Hours) Actual	(Hours) Cumulative			(Note 8)	(%)	(kWe-hr)	(kW)	(kWe)	(%)	(Btu)	(SCF)	(%, LHV)	(Btu)	(Btu/hour)	(%, LHV)	(%, LHV)		(%, LHV)	(Hours)	(Hours)	(Hours)
12672	258.3	348.0	258.3	258.3	826.0	775.0	74.2%	93.8%	465.0	5	1.800	0.73%	4591488	15888	N/A	0.0	N/A	N/A	N/A	0	0.00	32	3239.00		

- Notes:
- Includes Scheduled Test Runs & Run Time During Loss of AC Grid
 - Availability = Actual Run Time in Period / Scheduled Run Time in Period
 - Reliability = Actual Starts / Attempted Starts (Includes Test Starts & Loss of Grid Power Automatic Starts)
 - Average Output = Energy Produced / Run Time
 - Capacity Factor = Energy Produced / (Capacity * Time in Period)
 - Electrical Efficiency = Net Energy Produced / Fuel Usage (Calculated from the fuel usage in BTUs)
 - Heat Recovery Rate = Thermal Heat Recovery / Run Time
 - Thermal Efficiency = Thermal Heat Recovery / Fuel Usage
 - Overall Efficiency = Electrical Efficiency + Thermal Efficiency
 - Total Availability = Sum Total Run Time / Sum Total Hours in Period
 - Total Average Output = Total Energy Produced / Total Run Time
 - Total Capacity Factor = Total Energy Produced / (Total Capacity * Total Time in Period)
 - Avg. Electrical Efficiency = Total net energy produced / Total Fuel Usage
 - Avg. Heat Recovery R = Total Thermal Heat Recovery / Total Run Time
 - Avg. Thermal Efficiency = Total Thermal Heat Recovery / Total Fuel Usage
 - Avg. Overall Efficiency = Avg. Electrical Efficiency + Avg. Thermal Efficiency

101.21875

2) Fuel Cell Incident Reports



Incident Report/Work Log

State Department, Chancery Center

Report Date:	<u>7/6/2006</u>	Technician Initials:	<u>JWW</u>	FC Serial #:	<u>053</u>										
Event:	<u>Replace fuel cell stack - negative cell life issues</u>														
Total Hours On-Site:	<u>6</u>														
Mileage:	<u>1328</u>														
Type of Outage:	<input checked="" type="checkbox"/> Scheduled <input type="checkbox"/> Unscheduled														
Failure Date/Time:	<u> </u>	<table border="1"> <tr><td colspan="2">Meter Readings:</td></tr> <tr><td>Gas</td><td><u> </u></td></tr> <tr><td>Electric</td><td><u> </u></td></tr> <tr><td>BTU</td><td><u> </u></td></tr> <tr><td>FC Operating Hours</td><td><u> </u></td></tr> </table>				Meter Readings:		Gas	<u> </u>	Electric	<u> </u>	BTU	<u> </u>	FC Operating Hours	<u> </u>
Meter Readings:															
Gas	<u> </u>														
Electric	<u> </u>														
BTU	<u> </u>														
FC Operating Hours	<u> </u>														
Restart Date/Time:	<u> </u>														
Total Hours Unavailable:	<u>0</u>														
Problem Description:	<u>Fuel cell was about to exhaust negative cell life timer.</u>														

Service Performed or Corrective Action Taken: Replaced Stack

Report Date:	<u>7/11/2006</u>	Technician Initials:	<u>JWW</u>	FC Serial #:	<u>053</u>										
Event:	<u>Low bus start disabled</u>														
Total Hours On-Site:	<u>1</u>														
Mileage:	<u>0</u>														
Type of Outage:	<input type="checkbox"/> Scheduled <input checked="" type="checkbox"/> Unscheduled														
Failure Date/Time:	<u>7/8/06 8:40</u>	<table border="1"> <tr><td colspan="2">Meter Readings:</td></tr> <tr><td>Gas</td><td><u> </u></td></tr> <tr><td>Electric</td><td><u> </u></td></tr> <tr><td>BTU</td><td><u> </u></td></tr> <tr><td>FC Operating Hours</td><td><u> </u></td></tr> </table>				Meter Readings:		Gas	<u> </u>	Electric	<u> </u>	BTU	<u> </u>	FC Operating Hours	<u> </u>
Meter Readings:															
Gas	<u> </u>														
Electric	<u> </u>														
BTU	<u> </u>														
FC Operating Hours	<u> </u>														
Restart Date/Time:	<u>7/11/06 9:15</u>														
Total Hours Unavailable:	<u>72</u>														
Problem Description:	<u>The fuel cell has has ESTOPs for Tach Feedback Off & H2 sensor faults. This causes the low bus start checkbox to become disabled.</u>														

Service Performed or Corrective Action Taken: Dialed in via modem and reset fuel cell.

Report Date:	<u>8-2-2006</u>	Technician Initials:	<u>JWW</u>	FC Serial #:	<u>053</u>										
Event:	<u>Fuel cell down due to H2 leak</u>														
Total Hours On-Site:	<u>5</u>														
Mileage:	<u>87</u>														
Type of Outage:	<input type="checkbox"/> Scheduled <input checked="" type="checkbox"/> Unscheduled														
Failure Date/Time:	<u>7/8/06 8:40</u>	<table border="1"> <tr><td colspan="2">Meter Readings:</td></tr> <tr><td>Gas</td><td><u> </u></td></tr> <tr><td>Electric</td><td><u> </u></td></tr> <tr><td>BTU</td><td><u> </u></td></tr> <tr><td>FC Operating Hours</td><td><u> </u></td></tr> </table>				Meter Readings:		Gas	<u> </u>	Electric	<u> </u>	BTU	<u> </u>	FC Operating Hours	<u> </u>
Meter Readings:															
Gas	<u> </u>														
Electric	<u> </u>														
BTU	<u> </u>														
FC Operating Hours	<u> </u>														
Restart Date/Time:	<u>8/2/06 12:00</u>														
Total Hours Unavailable:	<u>603</u>														
Problem Description:	<u>The system has been having ESTOPS since July 11th. The H2 sensor was detecting H2.</u>														

Service Performed or Corrective Action Taken: Repaired leak at swagelock fitting. Replaced H2 sensor

Report Date:	9/25/2006	Technician Initials:	JWW	FC Serial #:	053
Event:	H2 Sensor Tripped				
Total Hours On-Site:	6				
Mileage:	80				
Type of Outage:	<input type="checkbox"/> Scheduled <input checked="" type="checkbox"/> Unscheduled				
Failure Date/Time:	8/30/06 8:43				
Restart Date/Time:	9/25/06 13:52				
Total Hours Unavailable:	629				
Problem Description:	H2 Sensor tripped				
Service Performed or Corrective Action Taken: Leak check H2 system. Repair leaks as needed. Replace H2 Sensor					

Meter Readings:	
Gas	
Electric	
BTU	
FC Operating Hours	

Report Date:	10/16/2006	Technician Initials:	JWW	FC Serial #:	053
Event:	H2 Sensor faults				
Total Hours On-Site:	0				
Mileage:					
Type of Outage:	<input type="checkbox"/> Scheduled <input checked="" type="checkbox"/> Unscheduled				
Failure Date/Time:	10/10/06 0:00				
Restart Date/Time:	10/19/06 0:00				
Total Hours Unavailable:	216				
Problem Description:	H2 sensor faults				
Service Performed or Corrective Action Taken: Replace H2 sensor, check stack floats, repair leaks					

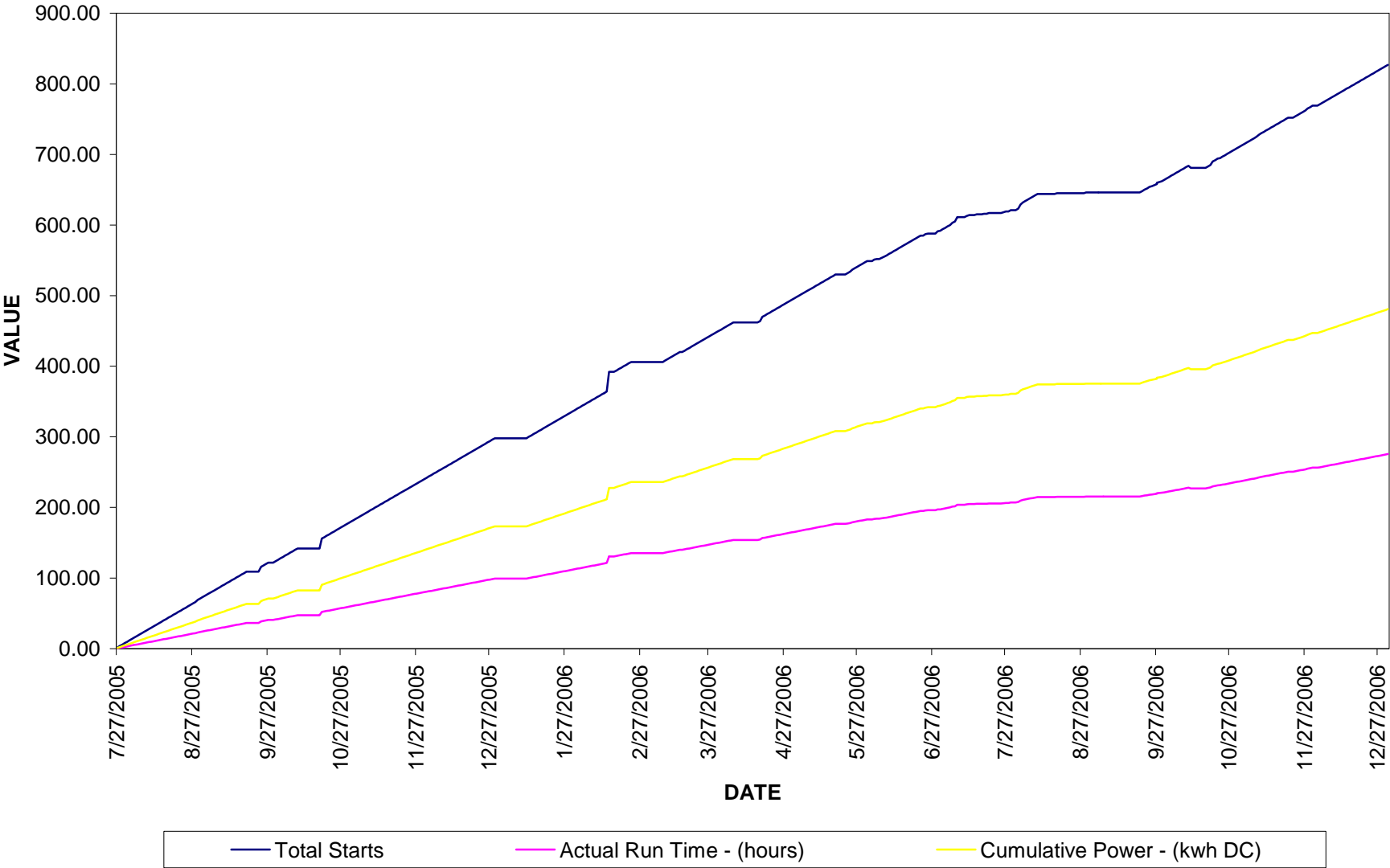
Meter Readings:	
Gas	
Electric	
BTU	
FC Operating Hours	

Report Date:	11/17/2006	Technician Initials:	JWW	FC Serial #:	053
Event:	Low fuel				
Total Hours On-Site:	0				
Mileage:	0				
Type of Outage:	<input type="checkbox"/> Scheduled <input checked="" type="checkbox"/> Unscheduled				
Failure Date/Time:					
Restart Date/Time:					
Total Hours Unavailable:	0				
Problem Description:	Low fuel				
Service Performed or Corrective Action Taken: Airgas slow to respond to refueling requests. The Gencore shutdown over the weekend due to low fuel.					

Meter Readings:	
Gas	
Electric	
BTU	
FC Operating Hours	

3) Key Cumulative Operating Data

Chancery Center Gencore Performance



4) Gencore Event Stack

Gencore Event Log Data

GC_VER_1.6 Inv: PP10 PDB:, C:\Program Files\Plug Power Inc\Service Interface\Gencore Service Interface Ver1.6"
"integer date, standard date,SARC State,Event,Error Codes"
1117105559,5/26/2005 7:05:59 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
"1117109170,5/26/2005 8:06:10 AM,System Ready (4)EVENT, Startup Event, Error Code: (1000)(0)"
"1117109399,5/26/2005 8:09:59 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
"1117111451,5/26/2005 8:44:11 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1117111467,5/26/2005 8:44:27 AM,Running (21)ALERT, Low Cell Trip Alert, Error Code: (500)(5)"
"1117111512,5/26/2005 8:45:12 AM,Running (21)SHUTDOWN, FC Contactor Retry Timeout, Error Code: (402)(0)"
"1117111513,5/26/2005 8:45:13 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
"1117111526,5/26/2005 8:45:26 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1117111556,5/26/2005 8:45:56 AM,Startup Init (20)ALERT, Start Timeout, Error Code: (400)(31)"
"1117111557,5/26/2005 8:45:57 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
"1117111570,5/26/2005 8:46:10 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1117111601,5/26/2005 8:46:41 AM,Startup Init (20)ALERT, Start Timeout, Error Code: (400)(31)"
"1117111601,5/26/2005 8:46:41 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
"1117111614,5/26/2005 8:46:54 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1117111645,5/26/2005 8:47:25 AM,Startup Init (20)ALERT, Start Timeout, Error Code: (400)(31)"
"1117111645,5/26/2005 8:47:25 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
"1117111658,5/26/2005 8:47:38 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1117112657,5/26/2005 9:04:17 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
"1117122159,5/26/2005 11:42:39 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
"1117122160,5/26/2005 11:42:40 AM,ESTOP (41)ESTOP, Cabinet Intrusion Hardware Trip, Error Code: (301)(0)"
"1117127019,5/26/2005 1:03:39 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1117127031,5/26/2005 1:03:51 PM,Running (21)ALERT, Low Cell Trip Alert, Error Code: (500)(20)"
"1117127077,5/26/2005 1:04:37 PM,Running (21)SHUTDOWN, FC Contactor Retry Timeout, Error Code: (402)(0)"
"1117127077,5/26/2005 1:04:37 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
"1117127090,5/26/2005 1:04:50 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1117127121,5/26/2005 1:05:21 PM,Startup Init (20)ALERT, Start Timeout, Error Code: (400)(31)"
"1117127121,5/26/2005 1:05:21 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
"1117127134,5/26/2005 1:05:34 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1117127165,5/26/2005 1:06:05 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
"1117127178,5/26/2005 1:06:18 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1118860144,6/15/2005 2:29:04 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1118860162,6/15/2005 2:29:22 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
"1118860175,6/15/2005 2:29:35 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1118860198,6/15/2005 2:29:58 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
"1118860211,6/15/2005 2:30:11 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1118860233,6/15/2005 2:30:33 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
"1118860246,6/15/2005 2:30:46 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1118860267,6/15/2005 2:31:07 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
"1118860280,6/15/2005 2:31:20 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1118860304,6/15/2005 2:31:44 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
"1118860317,6/15/2005 2:31:57 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1118860338,6/15/2005 2:32:18 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
"1118860351,6/15/2005 2:32:31 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1118860354,6/15/2005 2:32:34 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
"1118860371,6/15/2005 2:32:51 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1118860384,6/15/2005 2:33:04 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
"1118860408,6/15/2005 2:33:28 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"

"1118861253,6/15/2005 2:47:33 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1118862899,6/15/2005 3:14:59 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1118864610,6/15/2005 3:43:30 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1118865816,6/15/2005 4:03:36 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1118867454,6/15/2005 4:30:54 PM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1118867460,6/15/2005 4:31:00 PM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"
 "1118925230,6/16/2005 8:33:50 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1118925235,6/16/2005 8:33:55 AM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"
 "1118925809,6/16/2005 8:43:29 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1118925888,6/16/2005 8:44:48 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1118926800,6/16/2005 9:00:00 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1118928483,6/16/2005 9:28:03 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1118932019,6/16/2005 10:26:59 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
 "1118956506,6/16/2005 5:15:06 PM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1118956511,6/16/2005 5:15:11 PM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"
 "1118956638,6/16/2005 5:17:18 PM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1118956644,6/16/2005 5:17:24 PM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"
 "1119348700,6/21/2005 6:11:40 AM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(0)"
 "1119369279,6/21/2005 11:54:39 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1119369309,6/21/2005 11:55:09 AM,Startup Init (20)ALERT, Start Timeout, Error Code: (400)(30)"
 "1119369310,6/21/2005 11:55:10 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
 "1119369323,6/21/2005 11:55:23 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1119369353,6/21/2005 11:55:53 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
 "1119369366,6/21/2005 11:56:06 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1119369397,6/21/2005 11:56:37 AM,Startup Init (20)ALERT, Start Timeout, Error Code: (400)(30)"
 "1119369398,6/21/2005 11:56:38 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
 "1119369410,6/21/2005 11:56:50 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1119369441,6/21/2005 11:57:21 AM,Startup Init (20)ALERT, Start Timeout, Error Code: (400)(30)"
 "1119369442,6/21/2005 11:57:22 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
 "1119369454,6/21/2005 11:57:34 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1119369485,6/21/2005 11:58:05 AM,Startup Init (20)ALERT, Start Timeout, Error Code: (400)(30)"
 "1119369486,6/21/2005 11:58:06 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
 "1119369488,6/21/2005 11:58:08 AM,ESTOP Init (40)ESTOP, Start Retry At Maximum, Error Code: (503)(0)"
 "1119369492,6/21/2005 11:58:12 AM,ESTOP (41)ALERT, K1 Failure, Error Code: (313)(0)"
 "1119369498,6/21/2005 11:58:18 AM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"
 "1119369709,6/21/2005 12:01:49 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1119370640,6/21/2005 12:17:20 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1119374638,6/21/2005 1:23:58 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1119375943,6/21/2005 1:45:43 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1119377000,6/21/2005 2:03:20 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1119377435,6/21/2005 2:10:35 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1119380598,6/21/2005 3:03:18 PM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1119380603,6/21/2005 3:03:23 PM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"

MAINTENANCE: 7/7/2006 Cell Stack Replaced at Plug Power request

"1121351290,7/14/2005 10:28:10 AM,ESTOP (41)ALERT, Phone Line 1 No Modem Response, Error Code: (117)(0)"
 "1121351348,7/14/2005 10:29:08 AM,ESTOP (41)ALERT, Phone Line 2 No Answer, Error Code: (123)(0)"
 "1121351586,7/14/2005 10:33:06 AM,ESTOP (41)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1121352000,7/14/2005 10:40:00 AM,ESTOP (41)ALERT, Modem Test Initiated, Error Code: (128)(0)"
 "1121352058,7/14/2005 10:40:58 AM,ESTOP (41)ALERT, Phone Line 1 No Answer, Error Code: (115)(0)"
 "1121352117,7/14/2005 10:41:57 AM,ESTOP (41)ALERT, Phone Line 2 No Modem Response, Error Code: (125)(0)"
 "1121352178,7/14/2005 10:42:58 AM,ESTOP (41)ALERT, Phone Line 2 No Answer, Error Code: (123)(0)"
 "1121313838,7/14/2005 12:03:58 AM,ESTOP (41)ALERT, Abort Data Transfer, Error Code: (127)(0)"
 "1121318313,7/14/2005 1:18:33 AM,System Ready (4)ALERT, Modem Test Initiated, Error Code: (128)(0)"
 "1121318352,7/14/2005 1:19:12 AM,System Ready (4)ALERT, Phone Line 1 Passed, Error Code: (111)(0)"

"1121318404,7/14/2005 1:20:04 AM,System Ready (4)ALERT, Phone Line 2 Passed, Error Code: (119)(0)"

"1121358997,7/14/2005 12:36:37 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1121359850,7/14/2005 12:50:50 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"

"1121362828,7/14/2005 1:40:28 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1121364023,7/14/2005 2:00:23 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"

"1121366008,7/14/2005 2:33:28 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"

"1121434656,7/15/2005 9:37:36 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"

"1121434657,7/15/2005 9:37:37 AM,ESTOP (41)ESTOP, Gas Sensor Hardware Trip, Error Code: (302)(0)"

"1121690093,7/18/2005 8:34:53 AM,ESTOP (41)ALERT, Remote Modem Connected, Error Code: (129)(0)"

"1121700872,7/18/2005 11:34:32 AM,ESTOP (41)ALERT, Remote Modem Connected, Error Code: (129)(0)"

"1121700996,7/18/2005 11:36:36 AM,ESTOP (41)ALERT, Remote Modem Connected, Error Code: (129)(0)"

"1121701025,7/18/2005 11:37:05 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"

"1121701027,7/18/2005 11:37:07 AM,ESTOP (41)ESTOP, Gas Sensor Hardware Trip, Error Code: (302)(0)"

"1121701796,7/18/2005 11:49:56 AM,ESTOP (41)ALERT, Remote Modem Connected, Error Code: (129)(0)"

"1121701874,7/18/2005 11:51:14 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"

"1121701876,7/18/2005 11:51:16 AM,ESTOP (41)ESTOP, Gas Sensor Hardware Trip, Error Code: (302)(0)"

"1121701904,7/18/2005 11:51:44 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"

"1121701906,7/18/2005 11:51:46 AM,ESTOP (41)ESTOP, Gas Sensor Hardware Trip, Error Code: (302)(0)"

"1121701987,7/18/2005 11:53:07 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"

"1121701988,7/18/2005 11:53:08 AM,ESTOP (41)ESTOP, Gas Sensor Hardware Trip, Error Code: (302)(0)"

"1121958483,7/21/2005 11:08:03 AM,System Ready (4)ALERT, Phone Line 2 Passed, Error Code: (119)(0)"

"1121959635,7/21/2005 11:27:15 AM,System Ready (4)ALERT, Modem Test Initiated, Error Code: (128)(0)"

"1121959673,7/21/2005 11:27:53 AM,System Ready (4)ALERT, Phone Line 1 Passed, Error Code: (111)(0)"

"1121959723,7/21/2005 11:28:43 AM,System Ready (4)ALERT, Phone Line 2 Passed, Error Code: (119)(0)"

"1121959743,7/21/2005 11:29:03 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"

"1121959868,7/21/2005 11:31:08 AM,System Ready (4)EVENT, Condition Run Start, Error Code: (1004)(0)"

"1121959950,7/21/2005 11:32:30 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"

"1121959950,7/21/2005 11:32:30 AM,Shutdown (31)EVENT, Condition Run Aborted, Error Code: (1005)(0)"

"1121963736,7/21/2005 12:35:36 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1121963751,7/21/2005 12:35:51 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"

"1121963776,7/21/2005 12:36:16 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1121963896,7/21/2005 12:38:16 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"

"1121964043,7/21/2005 12:40:43 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1121965258,7/21/2005 1:00:58 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"

"1121965425,7/21/2005 1:03:45 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1121968184,7/21/2005 1:49:44 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"

"1121969569,7/21/2005 2:12:49 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"

"1121972455,7/21/2005 3:00:55 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"

"1122036042,7/22/2005 8:40:42 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1122037257,7/22/2005 9:00:57 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"

"1122050442,7/22/2005 12:40:42 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1122051499,7/22/2005 12:58:19 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"

"1122051514,7/22/2005 12:58:34 PM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"

"1122051515,7/22/2005 12:58:35 PM,ESTOP (41)ESTOP, Cabinet Intrusion Hardware Trip, Error Code: (301)(0)"

"1122051605,7/22/2005 1:00:05 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1122052534,7/22/2005 1:15:34 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"

"1122053945,7/22/2005 1:39:05 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"

"1122054919,7/22/2005 1:55:19 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1122054965,7/22/2005 1:56:05 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"

"1122055412,7/22/2005 2:03:32 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"

"1122063247,7/22/2005 4:14:07 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"

"1122122441,7/23/2005 8:40:41 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1122123213,7/23/2005 8:53:33 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"

"1122123215,7/23/2005 8:53:35 AM,ESTOP (41)ESTOP, Gas Sensor Hardware Trip, Error Code: (302)(0)"

"1122133155,7/23/2005 11:39:15 AM,ESTOP (41)ALERT, Remote Modem Connected, Error Code: (129)(0)"

"1122475721,7/27/2005 10:48:41 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1122475935,7/27/2005 10:52:15 AM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
 "1122475938,7/27/2005 10:52:18 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122476982,7/27/2005 11:09:42 AM,Running (21)ALERT, Modem Test Initiated, Error Code: (128)(0)"
 "1122477020,7/27/2005 11:10:20 AM,Running (21)ALERT, Phone Line 1 Passed, Error Code: (111)(0)"
 "1122477071,7/27/2005 11:11:11 AM,Running (21)ALERT, Phone Line 2 Passed, Error Code: (119)(0)"
 "1122478289,7/27/2005 11:31:29 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122478783,7/27/2005 11:39:43 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122478824,7/27/2005 11:40:24 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122479396,7/27/2005 11:49:56 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1122479402,7/27/2005 11:50:02 AM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"
 "1122481294,7/27/2005 12:21:34 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1122481577,7/27/2005 12:26:17 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1122482437,7/27/2005 12:40:37 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122483116,7/27/2005 12:51:56 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122485474,7/27/2005 1:31:14 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122486412,7/27/2005 1:46:52 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122488453,7/27/2005 2:20:53 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1122488504,7/27/2005 2:21:44 PM,System Ready (4)EVENT, Startup Event, Error Code: (1000)(0)"
 "1122488540,7/27/2005 2:22:20 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122488652,7/27/2005 2:24:12 PM,System Ready (4)EVENT, Startup Event, Error Code: (1000)(0)"
 "1122490315,7/27/2005 2:51:55 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122490324,7/27/2005 2:52:04 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
 "1122490453,7/27/2005 2:54:13 PM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1122490459,7/27/2005 2:54:19 PM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"
 "1122554437,7/28/2005 8:40:37 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122554487,7/28/2005 8:41:27 AM,Running (21)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1122555651,7/28/2005 9:00:51 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122568836,7/28/2005 12:40:36 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122570051,7/28/2005 1:00:51 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122655815,7/29/2005 12:50:15 PM,Running (21)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1122656450,7/29/2005 1:00:50 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122727235,7/30/2005 8:40:35 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122728450,7/30/2005 9:00:50 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122741635,7/30/2005 12:40:35 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122742850,7/30/2005 1:00:50 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122813634,7/31/2005 8:40:34 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122814849,7/31/2005 9:00:49 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122828034,7/31/2005 12:40:34 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122829248,7/31/2005 1:00:48 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122849883,7/31/2005 6:44:43 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1122900033,8/1/2005 8:40:33 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122901247,8/1/2005 9:00:47 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122906987,8/1/2005 10:36:27 AM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1122914237,8/1/2005 12:37:17 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1122914433,8/1/2005 12:40:33 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122915647,8/1/2005 1:00:47 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1122927900,8/1/2005 4:25:00 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1122986432,8/2/2005 8:40:32 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1122987647,8/2/2005 9:00:47 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1123000832,8/2/2005 12:40:32 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1123002046,8/2/2005 1:00:46 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1123072832,8/3/2005 8:40:32 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1123074046,8/3/2005 9:00:46 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1123087231,8/3/2005 12:40:31 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1123088446,8/3/2005 1:00:46 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1123159230,8/4/2005 8:40:30 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1123160445,8/4/2005 9:00:45 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123173630,8/4/2005 12:40:30 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123174845,8/4/2005 1:00:45 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123245629,8/5/2005 8:40:29 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123246844,8/5/2005 9:00:44 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123260029,8/5/2005 12:40:29 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123261244,8/5/2005 1:00:44 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123332028,8/6/2005 8:40:28 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123333243,8/6/2005 9:00:43 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123346428,8/6/2005 12:40:28 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123347643,8/6/2005 1:00:43 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123418427,8/7/2005 8:40:27 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123419642,8/7/2005 9:00:42 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123432827,8/7/2005 12:40:27 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123434042,8/7/2005 1:00:42 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123438135,8/7/2005 2:08:55 PM,System Ready (4)ALERT, Remote Modem Connected,	Error Code: (129)(0)"
"1123782762,8/11/2005 1:52:42 PM,System Ready (4)EVENT, Startup Event,	Error Code: (1000)(0)"
"1123782817,8/11/2005 1:53:37 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123836570,8/12/2005 4:49:30 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123837703,8/12/2005 5:08:23 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123844209,8/12/2005 6:56:49 AM,System Ready (4)ALERT, Remote Modem Connected,	Error Code: (129)(0)"
"1123847075,8/12/2005 7:44:35 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123847105,8/12/2005 7:45:05 AM,Startup Init (20)ALERT, Start Timeout,	Error Code: (400)(30)"
"1123847106,8/12/2005 7:45:06 AM,Shutdown Init (30)EVENT, Shutdown Event,	Error Code: (1001)(0)"
"1123847444,8/12/2005 7:50:44 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123848744,8/12/2005 8:12:24 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123850422,8/12/2005 8:40:22 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123851637,8/12/2005 9:00:37 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123853125,8/12/2005 9:25:25 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123853296,8/12/2005 9:28:16 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123853867,8/12/2005 9:37:47 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123854027,8/12/2005 9:40:27 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123855003,8/12/2005 9:56:43 AM,System Ready (4)ALERT, Remote Modem Connected,	Error Code: (129)(0)"
"1123855773,8/12/2005 10:09:33 AM,System Ready (4)ALERT, Remote Modem Connected,	Error Code: (129)(0)"
"1123864831,8/12/2005 12:40:31 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123865009,8/12/2005 12:43:29 PM,Running (21)ALERT, Remote Modem Connected,	Error Code: (129)(0)"
"1123866036,8/12/2005 1:00:36 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123936830,8/13/2005 8:40:30 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123938036,8/13/2005 9:00:36 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1123951230,8/13/2005 12:40:30 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1123952435,8/13/2005 1:00:35 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124023229,8/14/2005 8:40:29 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124024435,8/14/2005 9:00:35 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124037629,8/14/2005 12:40:29 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124038834,8/14/2005 1:00:34 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124104722,8/15/2005 7:18:42 AM,System Ready (4)ALERT, Remote Modem Connected,	Error Code: (129)(0)"
"1124210427,8/16/2005 12:40:27 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124211632,8/16/2005 1:00:32 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124211856,8/16/2005 1:04:16 PM,System Ready (4)ALERT, Remote Modem Connected,	Error Code: (129)(0)"
"1124282426,8/17/2005 8:40:26 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124283632,8/17/2005 9:00:32 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124296826,8/17/2005 12:40:26 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124298032,8/17/2005 1:00:32 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124368826,8/18/2005 8:40:26 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124370031,8/18/2005 9:00:31 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124383226,8/18/2005 12:40:26 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"

"1124384431,8/18/2005 1:00:31 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124455225,8/19/2005 8:40:25 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124456431,8/19/2005 9:00:31 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124469625,8/19/2005 12:40:25 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124470830,8/19/2005 1:00:30 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124481246,8/19/2005 3:54:06 PM,System Ready (4)ALERT, Remote Modem Connected,	Error Code: (129)(0)"
"1124541624,8/20/2005 8:40:24 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124542830,8/20/2005 9:00:30 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124556024,8/20/2005 12:40:24 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124557230,8/20/2005 1:00:30 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124628023,8/21/2005 8:40:23 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124629228,8/21/2005 9:00:28 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124642423,8/21/2005 12:40:23 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124643628,8/21/2005 1:00:28 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124714422,8/22/2005 8:40:22 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124715628,8/22/2005 9:00:28 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124728822,8/22/2005 12:40:22 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124730027,8/22/2005 1:00:27 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124800683,8/23/2005 8:38:03 AM,System Ready (4)ALERT, Remote Modem Connected,	Error Code: (129)(0)"
"1124800821,8/23/2005 8:40:21 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124816426,8/23/2005 1:00:26 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124887220,8/24/2005 8:40:20 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124888426,8/24/2005 9:00:26 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124901620,8/24/2005 12:40:20 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124902826,8/24/2005 1:00:26 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124973620,8/25/2005 8:40:20 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124974825,8/25/2005 9:00:25 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1124988019,8/25/2005 12:40:19 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1124989225,8/25/2005 1:00:25 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1125060019,8/26/2005 8:40:19 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1125061225,8/26/2005 9:00:25 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1125074419,8/26/2005 12:40:19 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1125075624,8/26/2005 1:00:24 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1125146418,8/27/2005 8:40:18 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1125147624,8/27/2005 9:00:24 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1125160818,8/27/2005 12:40:18 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1125161736,8/27/2005 12:55:36 PM,Running (21)ALERT, Low Fuel Alert,	Error Code: (210)(0)"
"1125162024,8/27/2005 1:00:24 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1125232817,8/28/2005 8:40:17 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1125234023,8/28/2005 9:00:23 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1125247217,8/28/2005 12:40:17 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1125248422,8/28/2005 1:00:22 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1125319216,8/29/2005 8:40:16 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1125319410,8/29/2005 8:43:30 AM,Running (21)ALERT, Remote Modem Connected,	Error Code: (129)(0)"
"1125320422,8/29/2005 9:00:22 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1125333616,8/29/2005 12:40:16 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1125334821,8/29/2005 1:00:21 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1125405616,8/30/2005 8:40:16 AM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1125406533,8/30/2005 8:55:33 AM,Running (21)ALERT, Remote Modem Connected,	Error Code: (129)(0)"
"1125406820,8/30/2005 9:00:20 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1127964537,9/28/2005 11:28:57 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1127964574,9/28/2005 11:29:34 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1127964765,9/28/2005 11:32:45 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1127964801,9/28/2005 11:33:21 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1127964992,9/28/2005 11:36:32 PM,System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1127965028,9/28/2005 11:37:08 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"

"1127965222,9/28/2005 11:40:22 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1127965258,9/28/2005 11:40:58 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1127965447,9/28/2005 11:44:07 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1127965485,9/28/2005 11:44:45 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1127965670,9/28/2005 11:47:50 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1127965707,9/28/2005 11:48:27 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1127965895,9/28/2005 11:51:35 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1127965931,9/28/2005 11:52:11 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1127966117,9/28/2005 11:55:17 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1127966154,9/28/2005 11:55:54 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1127966340,9/28/2005 11:59:00 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1127966376,9/28/2005 11:59:36 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1127966565,9/29/2005 12:02:45 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1127967491,9/29/2005 12:18:11 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1127967506,9/29/2005 12:18:26 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1127967508,9/29/2005 12:18:28 AM,ESTOP (41)ESTOP, Gas Sensor Hardware Trip, Error Code: (302)(0)"
 "1128013319,9/29/2005 1:01:59 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1128014211,9/29/2005 1:16:51 PM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1128014213,9/29/2005 1:16:53 PM,ESTOP (41)ESTOP, Gas Sensor Hardware Trip, Error Code: (302)(0)"
 "1128074118,9/30/2005 5:55:18 AM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(0)"
 "1128085342,9/30/2005 9:02:22 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1128085361,9/30/2005 9:02:41 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1128085367,9/30/2005 9:02:47 AM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"
 "1128338498,10/3/2005 7:21:38 AM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1129052891,10/11/2005 1:48:11 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(135)"
 "1129052891,10/11/2005 1:48:11 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(135)"
 "1129052892,10/11/2005 1:48:12 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(135)"
 "1129052893,10/11/2005 1:48:13 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(135)"
 "1129052893,10/11/2005 1:48:13 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(135)"
 "1129052897,10/11/2005 1:48:17 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(135)"
 "1129052898,10/11/2005 1:48:18 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(135)"
 "1129052901,10/11/2005 1:48:21 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(134)"
 "1129052928,10/11/2005 1:48:48 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(135)"
 "1129052936,10/11/2005 1:48:56 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(134)"
 "1129052937,10/11/2005 1:48:57 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(134)"
 "1129052939,10/11/2005 1:48:59 PM,ESTOP (41)ALERT, Fuel Leak Detected, Error Code: (211)(135)"
 "1129053123,10/11/2005 1:52:03 PM,System Ready (4)EVENT, Remote Modem Connected, Error Code: (129)(0)"
 "1129053659,10/11/2005 2:00:59 PM,System Ready (4)EVENT, Remote Modem Disconnect, Error Code: (130)(0)"
 "1129054968,10/11/2005 2:22:48 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1129055076,10/11/2005 2:24:36 PM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1129055082,10/11/2005 2:24:42 PM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"
 "1129056373,10/11/2005 2:46:13 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1129056486,10/11/2005 2:48:06 PM,Running (21)ALERT, Modem Test Initiated, Error Code: (128)(0)"
 "1129056527,10/11/2005 2:48:47 PM,Running (21)ALERT, Phone Line 1 Passed, Error Code: (111)(0)"
 "1129056578,10/11/2005 2:49:38 PM,Running (21)ALERT, Phone Line 2 Passed, Error Code: (119)(0)"
 "1129056830,10/11/2005 2:53:50 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
 "1129056945,10/11/2005 2:55:45 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1129057402,10/11/2005 3:03:22 PM,Running (21)ALERT, Low Fuel Alert, Error Code: (210)(0)"
 "1129057874,10/11/2005 3:11:14 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1129057961,10/11/2005 3:12:41 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1129058347,10/11/2005 3:19:07 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1129058786,10/11/2005 3:26:26 PM,System Ready (4)EVENT, Remote Modem Connected, Error Code: (129)(0)"
 "1129120757,10/12/2005 8:39:17 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1129121963,10/12/2005 8:59:23 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1129135157,10/12/2005 12:39:17 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1129136363,10/12/2005 12:59:23 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"

"1129207156,10/13/2005 8:39:16 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129208362,10/13/2005 8:59:22 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129221556,10/13/2005 12:39:16 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129222762,10/13/2005 12:59:22 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129293556,10/14/2005 8:39:16 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129294762,10/14/2005 8:59:22 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129307956,10/14/2005 12:39:16 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129309161,10/14/2005 12:59:21 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129379955,10/15/2005 8:39:15 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129381161,10/15/2005 8:59:21 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129394355,10/15/2005 12:39:15 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129395561,10/15/2005 12:59:21 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129466354,10/16/2005 8:39:14 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129467560,10/16/2005 8:59:20 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129480754,10/16/2005 12:39:14 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129481960,10/16/2005 12:59:20 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129552754,10/17/2005 8:39:14 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129553959,10/17/2005 8:59:19 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129567155,10/17/2005 12:39:15 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129568359,10/17/2005 12:59:19 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129639153,10/18/2005 8:39:13 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129640359,10/18/2005 8:59:19 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129653553,10/18/2005 12:39:13 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129654759,10/18/2005 12:59:19 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1129725552,10/19/2005 8:39:12 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1129726758,10/19/2005 8:59:18 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133535537,12/2/2005 9:58:57 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133548731,12/2/2005 1:38:51 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133549937,12/2/2005 1:58:57 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133620732,12/3/2005 9:38:52 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133621937,12/3/2005 9:58:57 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133635132,12/3/2005 1:38:52 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133636337,12/3/2005 1:58:57 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133707133,12/4/2005 9:38:53 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133708337,12/4/2005 9:58:57 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133721532,12/4/2005 1:38:52 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133721562,12/4/2005 1:39:22 PM, Shutdown Init (30)EVENT, Shutdown Event,	Error Code: (1001)(0)"
"1133721575,12/4/2005 1:39:35 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133722235,12/4/2005 1:50:35 PM, Running (21)ALERT, Low Fuel Alert,	Error Code: (210)(0)"
"1133722738,12/4/2005 1:58:58 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133793531,12/5/2005 9:38:51 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133794737,12/5/2005 9:58:57 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133807931,12/5/2005 1:38:51 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133807962,12/5/2005 1:39:22 PM, Shutdown Init (30)EVENT, Shutdown Event,	Error Code: (1001)(0)"
"1133807975,12/5/2005 1:39:35 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133809138,12/5/2005 1:58:58 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133879932,12/6/2005 9:38:52 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133881137,12/6/2005 9:58:57 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133894331,12/6/2005 1:38:51 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133895537,12/6/2005 1:58:57 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133966332,12/7/2005 9:38:52 AM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133967537,12/7/2005 9:58:57 AM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1133980731,12/7/2005 1:38:51 PM, System Ready (4)EVENT, Startup Event Bus Enable,	Error Code: (1002)(0)"
"1133981937,12/7/2005 1:58:57 PM, Shutdown Init (30)EVENT, Shutdown Event Bus Enable,	Error Code: (1003)(0)"
"1134014419,12/7/2005 11:00:19 PM, System Ready (4)ALERT, Enclosure Temperature Low Alert,	Error Code: (206)(0)"
"1134050541,12/8/2005 9:02:21 AM, System Ready (4)EVENT, Remote Modem Connected,	Error Code: (129)(0)"

"1135436340,12/24/2005 9:59:00 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1135449534,12/24/2005 1:38:54 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135449564,12/24/2005 1:39:24 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
 "1135449577,12/24/2005 1:39:37 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135450739,12/24/2005 1:58:59 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1135521534,12/25/2005 9:38:54 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135522739,12/25/2005 9:58:59 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1135535934,12/25/2005 1:38:54 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135537139,12/25/2005 1:58:59 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1135607934,12/26/2005 9:38:54 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135609139,12/26/2005 9:58:59 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1135622334,12/26/2005 1:38:54 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135623540,12/26/2005 1:59:00 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1135694334,12/27/2005 9:38:54 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135695540,12/27/2005 9:59:00 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1135708734,12/27/2005 1:38:54 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135709939,12/27/2005 1:58:59 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1135780734,12/28/2005 9:38:54 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135781940,12/28/2005 9:59:00 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1135795134,12/28/2005 1:38:54 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135795165,12/28/2005 1:39:25 PM,Shutdown Init (30)EVENT, Shutdown Event, Error Code: (1001)(0)"
 "1135795178,12/28/2005 1:39:38 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135796340,12/28/2005 1:59:00 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1135867134,12/29/2005 9:38:54 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1135868340,12/29/2005 9:59:00 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1135868435,12/29/2005 10:00:35 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1135868436,12/29/2005 10:00:36 AM,ESTOP (41)ESTOP, Gas Sensor Hardware Trip, Error Code: (302)(0)"
 "1136308898,1/3/2006 12:21:38 PM,ESTOP (41)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1136309667,1/3/2006 12:34:27 PM,Standby Wait (3)ALERT, Low Fuel Alert, Error Code: (210)(0)"
 "1136310244,1/3/2006 12:44:04 PM,System Ready (4)ALERT, Remote Modem Connected, Error Code: (129)(0)"
 "1154364887,7/31/2006 12:54:47 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1154364924,7/31/2006 12:55:24 PM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1154364925,7/31/2006 12:55:25 PM,ESTOP (41)ESTOP, Gas Sensor Hardware Trip, Error Code: (302)(39)"
 "1154365022,7/31/2006 12:57:02 PM,ESTOP (41)ALERT, Abort Data Transfer, Error Code: (127)(0)"
 "1154383667,7/31/2006 6:07:47 PM,ESTOP (41)EVENT, Remote Modem Connected, Error Code: (129)(0)"
 "1154383816,7/31/2006 6:10:16 PM,ESTOP (41)EVENT, Remote Modem Disconnect, Error Code: (130)(0)"
 "1154444881,8/1/2006 11:08:01 AM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1154444886,8/1/2006 11:08:06 AM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"
 "1154445249,8/1/2006 11:14:09 AM,ESTOP (41)EVENT, Remote Modem Connected, Error Code: (129)(0)"
 "1154445455,8/1/2006 11:17:35 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1154448644,8/1/2006 12:10:44 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1154448677,8/1/2006 12:11:17 PM,ESTOP (41)ESTOP, Gas Sensor Hardware Trip, Error Code: (302)(46)"
 "1154449614,8/1/2006 12:26:54 PM,ESTOP Init (40)ALERT, K1 Failure, Error Code: (313)(0)"
 "1154449620,8/1/2006 12:27:00 PM,ESTOP (41)ESTOP, Unknown ESTOP, Error Code: (312)(0)"
 "1154449687,8/1/2006 12:28:07 PM,ESTOP (41)EVENT, Remote Modem Connected, Error Code: (129)(0)"
 "1154449898,8/1/2006 12:31:38 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1154450539,8/1/2006 12:42:19 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1154450962,8/1/2006 12:49:22 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1154451286,8/1/2006 12:54:46 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1154451825,8/1/2006 1:03:45 PM,System Ready (4)EVENT, Remote Modem Disconnect, Error Code: (130)(1)"
 "1154451826,8/1/2006 1:03:46 PM,System Ready (4)EVENT, Remote Modem Disconnect, Error Code: (130)(0)"
 "1154452288,8/1/2006 1:11:28 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1154454133,8/1/2006 1:42:13 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1154454482,8/1/2006 1:48:02 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
 "1154455710,8/1/2006 2:08:30 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
 "1154456026,8/1/2006 2:13:46 PM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"

"1154457278,8/1/2006 2:34:38 PM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
"1154522070,8/2/2006 8:34:30 AM,System Ready (4)EVENT, Startup Event Bus Enable, Error Code: (1002)(0)"
"1154523285,8/2/2006 8:54:45 AM,Shutdown Init (30)EVENT, Shutdown Event Bus Enable, Error Code: (1003)(0)"
"1154524384,8/2/2006 9:13:04 AM,System Ready (4)EVENT, Remote Modem Connected, Error Code: (129)(0)"

MAINTENANCE: 8/2/2006 Replaced Hydrogen Sensor and Tightened Swagelock Fittings
MAINTENANCE: 9/25/2006 Restarted Gencore, Cycled Power, Checked for H2 Leaks
MAINTENANCE: 10/19/2006 Plug Power Technician On Site - Replaced H2 Sensor Filled Stack Drain Floats
MAINTENANCE: 11/17/2006 Dialed In And Reduced Voltage Ssetpoint To Conserve Fuel - Low Fuel
MAINTENANCE: 11/30/2006 Gencore Modem Not Operational, Reset After Several Hours